

[54] **ENTRANCE DOOR CONSTRUCTION FOR
HANDBALL AND RACQUETBALL COURTS**

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[22] Filed: **Mar. 25, 1974**

[21] Appl. No.: **454,101**

[52] U.S. Cl. **49/169**, 49/62, 49/171,
49/503, 272/3, 273/95 H

[51] Int. Cl. **E06b 7/34**

[58] Field of Search 49/169, 170, 171, 503,
49/62, 70; 272/3; 273/95 H; 52/205; 312/292

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[57] **ABSTRACT**

A special entrance door for playing courts such as handball and racquetball courts has an easy to operate, positive latch arrangement which does not interfere with play, and incorporates a compartment which both conceals the court side doorknob and provides storage space for personal items and playing gear. Access to the compartment is provided by a small door which, when closed, is flush with the inside surface of the entrance door. A simple pull is mounted in the compartment door and is normally retracted flush with its outside (court side) surface. Therefore, the ball may be played off the door structure with the usual action due to the absence of interfering projections, and personal items are likewise concealed to preclude interference with play.

10 Claims, 7 Drawing Figures

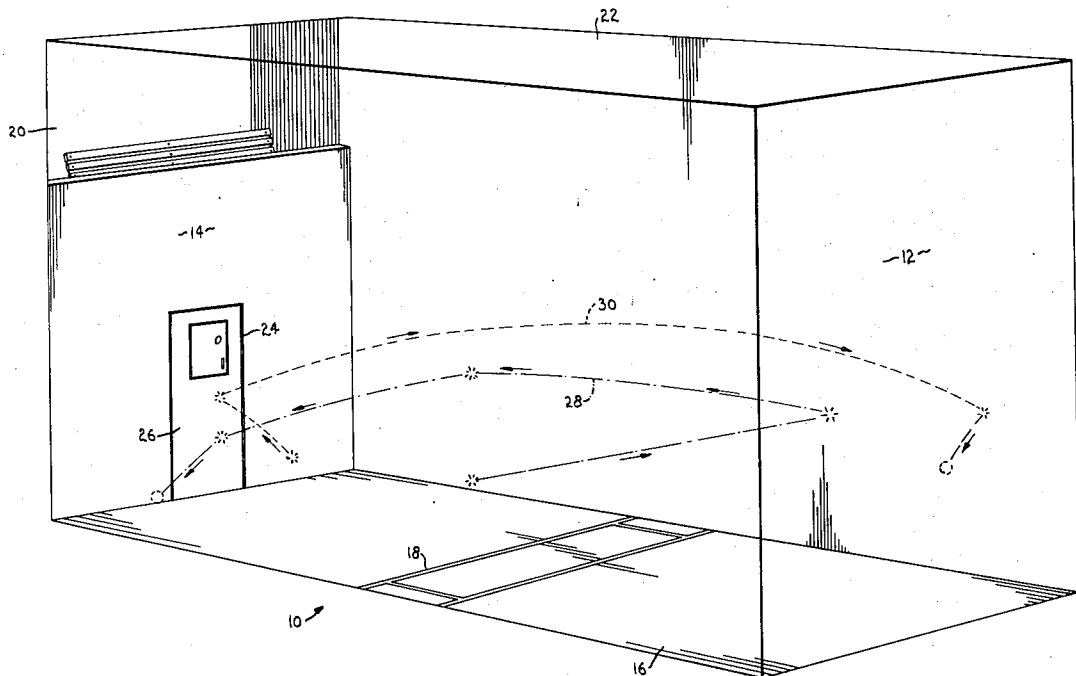


Fig. 1.

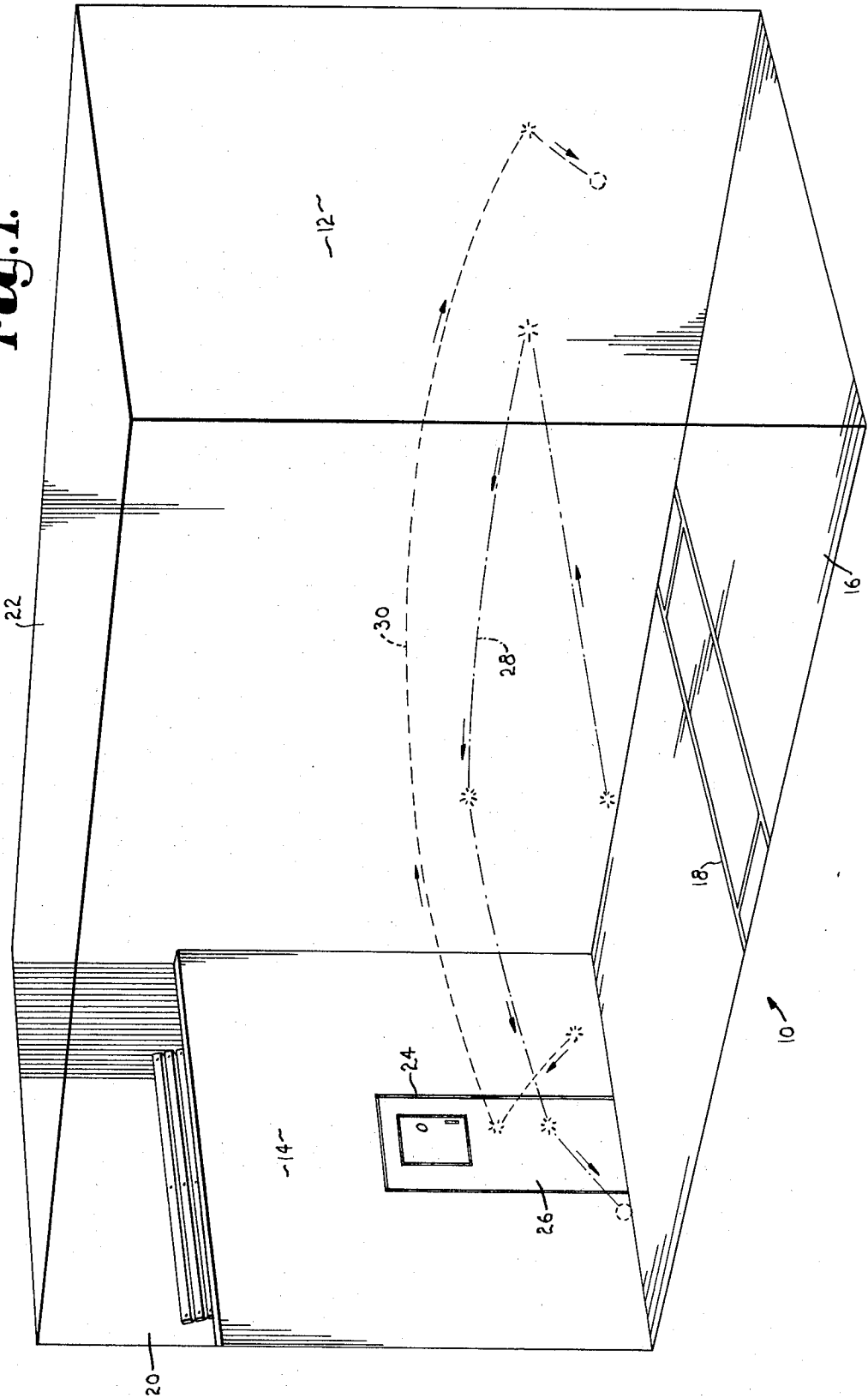


Fig. 2.

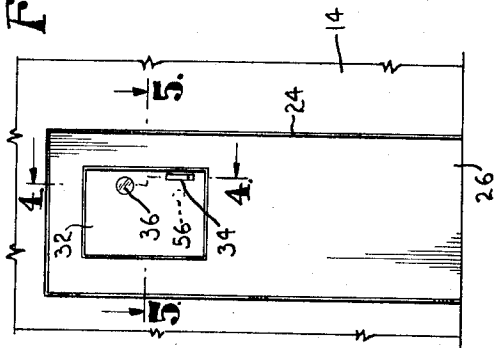


Fig. 4.

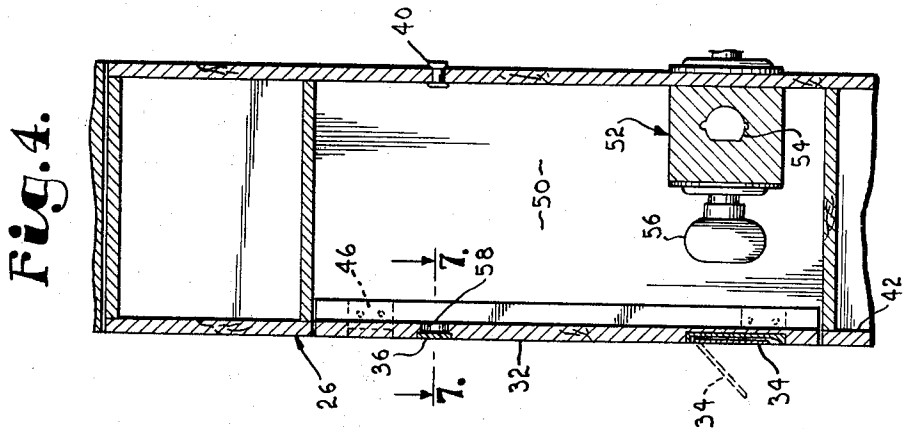


Fig. 5.

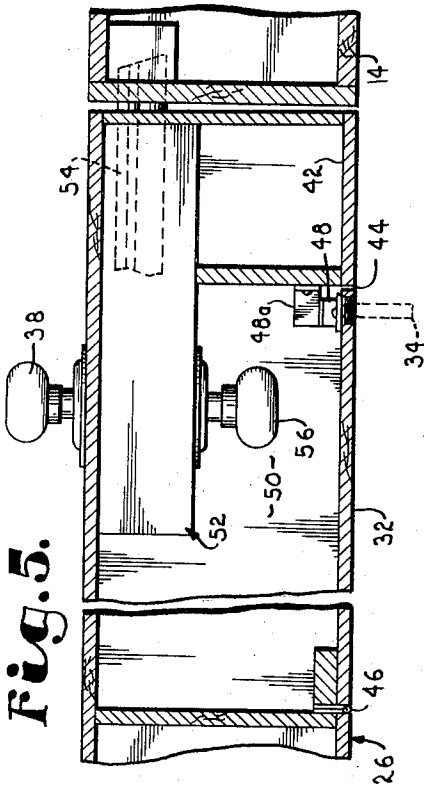


Fig. 6.

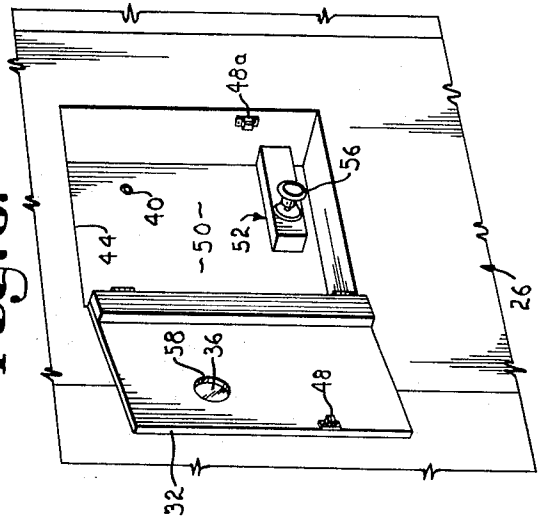
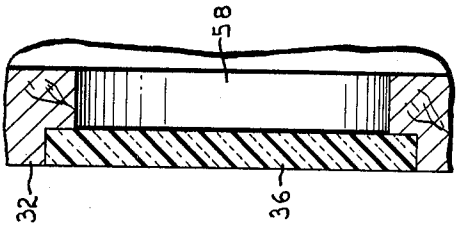


Fig. 7.



ENTRANCE DOOR CONSTRUCTION FOR HANDBALL AND RACQUETBALL COURTS

This invention relates to improvements in entrance doors for use in handball and racquetball, and similar sports where a ball may be played off all the walls of the playing court.

Handball and racquetball are played inside on a court and, after the serve, the ball may be played off any of the four walls of the court as long as it strikes the front wall in its flight. Thus, many different shots are possible using the four walls of the court in an effort to place the ball so that the opposing player is caught out of position. Although the ball is more likely to be played off the front and side walls, it is sometimes played off the back wall of the court, particularly in instances where the ball is delivered deep in the back court.

Taking advantage of the characteristics of the game, the entrance door for a handball-racquetball court is commonly located at the center of the back wall in order to position the door where it is less likely to be struck by the ball during play. However, since this is inevitable, drop handles and similar devices have been used heretofore as the door handle on the inside or court side of the entrance door. This has not proven completely satisfactory, however, since the handle may not be entirely flush and sometimes interferes with the action of the ball. Furthermore, operation of the door latch mechanism is made more difficult the more it is attempted to minimize the effect of the handle by reducing its size, and thereby also reducing the convenience with which it may be grasped and operated to throw the bolt of the latch mechanism.

Additionally, an accompanying problem relates to the personal items and extra playing gear of the players. Oftentimes there is no choice but to leave such items on the floor of the court in one of the corners by the back wall since they present less of an interference problem in these locations. For security, items such as keys, wallets, purses and watches cannot be left outside the court, so the player has no alternative and must at least carry keys, extra balls, etc. into the court even if locker facilities are available.

It is, therefore, the primary object of the present invention to provide an entrance door structure for use in handball, racquetball and similar sports which is specially constructed to eliminate the interference in the back court discussed hereinabove.

As a corollary to the foregoing object, it is an important aim of this invention to provide a special entrance door structure as aforesaid which has an easy to operate, positive latch arrangement that does not interfere with play, and which also provides a storage compartment accessible from the court side of the entrance door to enable the players to conceal personal items and playing gear in order to also prevent such items from interfering with normal play.

Another important object of this invention is to provide an entrance door structure as aforesaid wherein the compartment in the structure both conceals the court side doorknob of the latch mechanism and provides the mentioned storage space, wherein access to the compartment is provided by a small, easily operated door which, when closed, is flush with the inside surface of the entrance door.

Still another important object of this invention is to provide an entrance door structure as aforesaid in which a conventional doorknob may be employed on

the court side of the door to enable a player to easily throw the bolt of the latch mechanism, this objective being achieved by locating the knob in the compartment for convenient manual grasping when the compartment door is opened.

Furthermore, it is an important object of the present invention to eliminate the need for providing an exposed court side door handle, and to substitute therefor a small, easily opened compartment door through which access to a concealed main door handle or knob may be gained.

An additional objective is to provide an entrance door construction as aforesaid which permits viewing through the door structure from the outside when the compartment door is closed, also without interfering with the action of the ball when played against any part of the inside surface.

In the drawings:

FIG. 1 is a perspective view of a handball-racquetball court showing the entrance door structure of the present invention and illustrating two exemplary shots, the side wall nearest the viewer and the front wall of the court being transparent solely for purposes of illustration;

FIG. 2 is an elevational view of the entrance door from the court side, both the door and the small closure member of the compartment being closed;

FIG. 3 is an elevational view of the outside of the entrance door;

FIG. 4 is an enlarged, vertical sectional view taken along line 4—4 of FIG. 2;

FIG. 5 is a fragmentary, horizontal sectional view taken along line 5—5 of FIG. 2, on the same scale as FIG. 4;

FIG. 6 is a perspective view of a portion of the court side of the entrance door, the closure member of the compartment being shown in an open position; and

FIG. 7 is an enlarged, fragmentary, horizontal sectional view taken along line 7—7 of FIG. 4.

Referring initially to FIG. 1, the handball-racquetball court 10 there illustrated has the usual front wall 12, back wall 14, and playing floor 16 marked to designate the serving area 18. A spectators balcony 20 is located above the rear wall 14, and the side wall of the court 10 farthest from the viewer is seen at 22. An entrance opening 24 is centrally located in the back wall 14, and the entrance door 26 of the present invention is mounted therein by recessed hinges (not shown). The door 26 would normally be arranged to swing inwardly when opened.

Before describing the entrance door construction in detail, it is instructive to note the two exemplary shots illustrated in FIG. 1. The broken line 28 shows the flight of a ball hit by a player in the vicinity of the serving area 18. The ball strikes the front wall 12, the side wall 22, and the entrance door 26 in that order as illustrated by the arrows. The broken line 30 shows the flight of a ball hit deep in the back court directly against the entrance door 26, the ball then rebounding down the court and striking the front wall 12. Both of these shots illustrate that the back wall 14 may at times be played from various player locations. Accordingly, the back wall 14 and its entrance door 26 should present a smooth, virtually uninterrupted surface that will not interfere with the action of the ball nor discourage a player from playing the ball off the back wall as a part of the strategy of the game.

This is accomplished in the present invention as illustrated in FIGS. 2-7. FIG. 2 shows the entrance door 26 as it appears from the court side when closed. As will be described, the door 24 contains a storage compartment, the door of such compartment being in the nature of a relatively small, rectangular closure member 32 on the inside of the door 26. All that is visible when the member 32 is in its closed position is a retracted pull 34 and a circular, transparent insert 36 located above the pull 34. From the outside (FIG. 3) the entrance door 26 is seen to have an outside doorknob 38 that is disposed toward the center of the door away from the jamb. A small eyepiece 40 is disposed in alignment with the transparent insert 36 on the inside, as will be discussed.

The door 26 is preferably of hollow core construction with its court side panel 42 (FIGS. 4 and 5) being selected to provide the ball with rebound characteristics that are the same as the action obtained when the ball is rebounded off the walls of the court. The closure member 32 (preferably of the same or similar material) fits in a rectangular opening 44 in the panel 42 and is mounted for swinging movement by a pair of recessed hinges 46. The pull 34 is a typical cabinet pull and retracts flush with the outside (court side) surface of the closure member 32, the pull 34 being in the nature of a vertically disposed finger that is hinged at its upper extremity. As may be seen in FIG. 4, there is just enough clearance at the lower end of the pull 34 to permit a fingertip to withdraw the pull to the extended position thereof illustrated in broken lines. Both the size of the pull 34 and the force that must be exerted thereon to swing the member 32 to an open position are quite small, since it is only necessary to separate the two components 48 and 48a of a magnetic catch. The component 48 is mounted on the inside of the member 32, and the component 48a (containing the permanent magnet) is installed within the door 26. The spacing between the components 48 and 48a is adjusted to hold the member 32 closed with the outside surface of the member exactly flush with the inside surface of the door 26 (see FIG. 5). A friction or spring catch may also be employed in lieu of the magnetic catch illustrated.

When the closure member 32 is swung open as in FIG. 6, a storage compartment 50 as mentioned above becomes accessible, along with a latch mechanism 52 for the door 26 of which the outside doorknob is a part. The mechanism 52 is conventional and employs an extended bolt 54 to accommodate the spacing of the knob 38 from the adjacent jamb. An inside doorknob 56 of the standard type opposes the outside knob 38 but is concealed within the compartment 50. Accordingly, as is evident in FIGS. 4-6, the arrangement prevents the entire latch mechanism 52 from being exposed from the court side.

FIG. 7 shows in detail a window 58 formed in the closure member 32 and including the transparent insert 36 which is flush with the outside surface of the member 32. The insert 36 is preferably of a transparent plastic material and does not adversely affect the action of the ball. Referring to FIG. 4, the eyepiece 40 and the insert 36 are aligned when member 32 is closed to provide aligned light passages so that one outside the court may look in to determine if the court is in use without opening the door 26.

Utilizing the door construction of the present invention, the players store personal items and playing gear in the compartment 50 so that the court floor is entirely clear. With the door 26 and the closure member 32 completely closed, the vertical playing surface presented by the back wall 14 is substantially uninterrupted by the presence of the door 26. When egress is desired, the player merely swings the member 32 to an open position using the small pull 34, and then reaches into the compartment 50 and grasps the doorknob 56. It will be appreciated that this is a full-size doorknob to enable the player to easily throw the bolt 54 and permit the door 26 to be swung open in the normal manner.

It is significant in the present invention that the pull 34 used to assist the player in opening the compartment may be reduced to a size to preclude any material interference with the action of a ball played off the surface of the closure member 32. Since the member 32 is in the nature of a small cabinet door, simple magnetic (as shown) or friction type catches suffice and these may be readily separated by a light pull to open the compartment. The significant mass of the door structure, therefore, is secured by a standard door latch mechanism as illustrated at 52, and for this purpose the concealed doorknob 56 allows the player to conveniently throw the bolt 54 by manual rotation of the knob. In this regard, it is important that a positive latch arrangement such as illustrated by the bolt 54 be employed with an entrance door of this type, since it must be securely held not only rigidly but in exact alignment with the surrounding wall in order that the adjacent wall and door surfaces at the edge of the entrance opening 24 will be coplanar and present no significant interruption that could interfere with the normal rebound characteristics of the ball.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. An entrance structure for a playing court comprising:

- an entrance door adapted to be received within an opening in a wall of said court;
- means for mounting said door in said opening for movement between open and closed dispositions, said door being provided with a storage compartment therein, and having an inside surface facing the court when the door is closed;
- a closure member on the inside of said door normally closing said compartment and movable to an open position permitting free access to said compartment,
- said member having an outside surface flush with said inside surface of the door when the member is in its normal position closing said compartment, whereby to preclude interference with the action of a ball played off the door; and
- a latch mechanism in said door having manually operable actuating means in said compartment accessible from the court side of the door when said member is moved to its open position, whereby the door may be opened and closed and yet the actuating means is not exposed from the court side.

2. The structure as claimed in claim 1, wherein is provided an extendible and retractable pull on said closure member to assist in moving the same between its open and closed positions, said pull being normally retracted flush with said outside surface of the member.

3. The structure as claimed in claim 2, wherein hinge means is provided mounting said closure member for swinging movement between said open and closed positions thereof.

4. The structure as claimed in claim 1, wherein said latch mechanism has a shiftable bolt, and said actuating means is operable to throw the bolt and is adapted to be grasped from the court side of the door when said compartment is open.

5. The structure as claimed in claim 1, wherein light passages are provided in said door and said closure member, in alignment when said member is in its closed position, to permit a person on the outside of the door to see through to the court side thereof.

6. The structure as claimed in claim 5, wherein said member is provided with a window having a transparent element flush with said outside surface of the member and presenting said light passage therein.

7. In combination with a wall of a playing court having an entrance opening therein:
an entrance door;

means mounting said door in said opening for movement between open and closed dispositions, said door being provided with a storage compartment therein, and having an inside surface flush with the court side of said wall when the door is closed;
a closure member on the inside of said door normally closing said compartment and movable to an open position permitting free access to said compart-

ment,

said member having an outside surface flush with said inside surface of the door when the member is in its normal position closing said compartment, whereby to preclude interference with the action of a ball played off the door; and

a latch mechanism in said door having a shiftable bolt for securing the door to said wall when the door is closed, and having manually operable actuating means in said compartment accessible from the court side of the door when said member is moved to its open position, whereby the door may be opened, closed and secured and yet the actuating means is not exposed from the court side.

8. The combination as claimed in claim 7, wherein is provided an extendible and retractable pull on said closure member to assist in moving the same between its open and closed positions, said pull being normally retracted flush with said outside surface of the member.

9. The combination as claimed in claim 8, wherein hinge means is provided mounting said closure member for swinging movement between said open and closed positions thereof.

10. The combination as claimed in claim 7, wherein said actuating means includes a knob for throwing said bolt and adapted to be grasped from the court side of the door when said compartment is open.

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